

ABSTRACT

5 The invention includes a composition of matter and method that utilizes
energy transfer between one or more donor and acceptor molecules. The composition
of matter includes an encapsulation vesicle having a matrix, a surface coating of an
organo-metallic complex and a transparent protection layer. The transparent
protection layer is capable of modification by addition of biomolecules to the surface
in order to bind other molecules. The proximity of the bound biomolecules to the
10 protective layer allows for energy transfer from a donor molecule internal to the
protection layer to an acceptor molecule outside the protection layer. The protection
layer acts to diminish the effects of collisional quenching on the donor molecules
caused by ubiquitous small molecules such as molecular oxygen. The application also
teaches a method of making and applying the complexes to immunoassays.

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